



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Daniel Mauney et al.

Title: ENHANCED WIRELESS HANDSET, INCLUDING DIRECT
HANDSET-TO-HANDSET COMMUNICATION MODE

App. No.: 10/612,346

Filed: July 2, 2003

Examiner: TRAN, Tuan A

Group Art Unit: 2618

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M/S Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R §1.131

The above-identified application, 10/612,346, is a continuation application of U.S. Patent Application 09/968,856, which is a divisional application of 09/094,600. The inventors of the subject matter of 09/094,600 declare conception of the subject matter of the present application before September 17, 1997 and due diligence from prior to September 17, 1997 to the filing of application 09/094,600 (June 15, 1998), as indicated by the following numbered paragraphs and the attached Exhibit.

**DECLARATION UNDER 37 C.F.R §1.131**

1. My residence, post office address and citizenship are as stated below, next to my name.
2. I believe that I am an original, first and joint inventor of the subject matter which is claimed and for which a patent is sought via the above-identified patent application.
3. The activities leading to the conception of the claimed subject matter occurred in the United States of America.
4. The subject matter disclosed in the above-identified application was conceived prior to September 17, 1997. A redacted copy of witnessed notebook pages demonstrating possession of the subject matter disclosed in the above-identified application is attached as Exhibit 1. I affirm that all redacted dates are prior to September 17, 1997.
5. Between prior to September 17, 1997 and June 15, 1998, I participated in various telephone conversations and reviewed drafts of the U.S. patent application based on subject matter of the notebook pages attached as Exhibit 1 with C. Gregory Gramenopoulos, a patent attorney with Greenblum & Bernstein, P.L.C.
6. On June 15, 1998, U.S. Patent Application 09/094,600 was filed with the United States Patent and Trademark Office based on subject matter of the notebook pages attached as Exhibit 1.

I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of inventor:

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Date: 7/22/06Citizenship: U.S.

ZIP: 27519

Country: US



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Date: _____

Citizenship: U.S.

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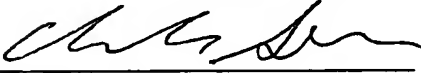
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Full name of inventor: Steven A. Harbin

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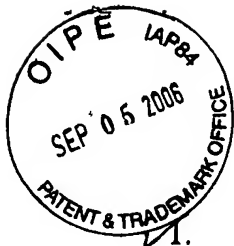
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EXHIBIT 1

HFG Process

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Description: A cell phone handset that is capable of direct handset to handset calls within a limited area, but without going through the cellular network, would enable teenagers to not only know if their friend was in the area, but also talk to him/her if that person was in the area. This "walkie-talkie" functionality would likely be extremely attractive to teenagers, while still providing restricted cellular capabilities to enable emergency calls and calls to and from parents, making it also very attractive to parents (the bill payers).

Technical evaluations have been limited thus far, but there are handsets already on the market and in existence that combine cellular and 900 MHz capabilities. (These handsets are currently being developed and marketed for a home cordless telephone that turns into a cellular phone when away from home.) Possibly, with only software modifications, these phones could be used for phone to phone communications which do not load our cellular network and thus could be sold at a very low minute usage rate or flat fee. These technical issues will be evaluated more thoroughly with time.

In use, each handset would be given two numbers, a cell phone number and a 900 MHz number. The teen could use the cell phone features of the handset in accordance with the KIWI service option purchased, in the same manner as a normal cell phone. The teen could also use the phone to make handset to handset calls to someone else with the same type of handset who is within their calling range by dialing the 900 MHz number of the other handset. Conceivably, a polling feature could also be added where the teen could initiate a poll to determine what other handsets are within range, thereby finding out which of his/her friends is in the area, and then even being able to call those people to see what they are doing.

To Page No. 2

Invented by

Recorded by

Date

Understood

Daniel C. Burnett

By 2 Burnett

Project No. _____

Book No. _____

TITLE _____

From page 1

benef E. Burnett
1/22 Benefits: Both teenagers and parents would likely have a need and a strong desire for a phone with these capabilities. Teenagers would keep this phone on them at all times to stay in touch with their friends, also making it possible for their parents to reach them at all times. (This is in direct contrast to the focus group results where the most likely place for the KIWI phone is in the car.) With this phone, a teen could locate friends at a sporting event, in the mall, or at any other social hangout.

Further, this feature would have many other applications, for businesses as well as personal. Construction crews would have a mobile network wherever their construction site was that day. Families going to the mall could split up and, instead of meeting at a specified time, could call each other whenever they were finished. And, there are many other applications which are not mentioned here and which we may not even envision, but will be discovered by end consumers.

Pricing: Because this is an incremental feature that has no impact on the cellular network, it could be billed as a flat rate service (approx. \$10/month). Ideally we would deploy first and only SBC handsets could communicate with other SBC handsets. Successful deployment would raise significant entry barriers to any other cellular companies.

Additional Features

- Address Book - phone has ability to store list of friends phone number
- phone has ability to scroll through the list^{of phone numbers} and make calls
- phone has ability to call a base station, enabling calls to be placed over the PSTN
- conference call in other phones
- phone has ability to broadcast voice to many other phones
- phone has vibrator, ring, or otherwise have a means for signaling the user that someone new has entered the area (is within range of the p.)
- phone has option to poll^{only} numbers that are on the list (address book)
- phone has a signal strength indicator that can also be used to tell how far the person is away.
- phone has a block list, a list of phone numbers it will not respond to polling requests so those phones do not know it is around

Witnessed & Understood by me

Date

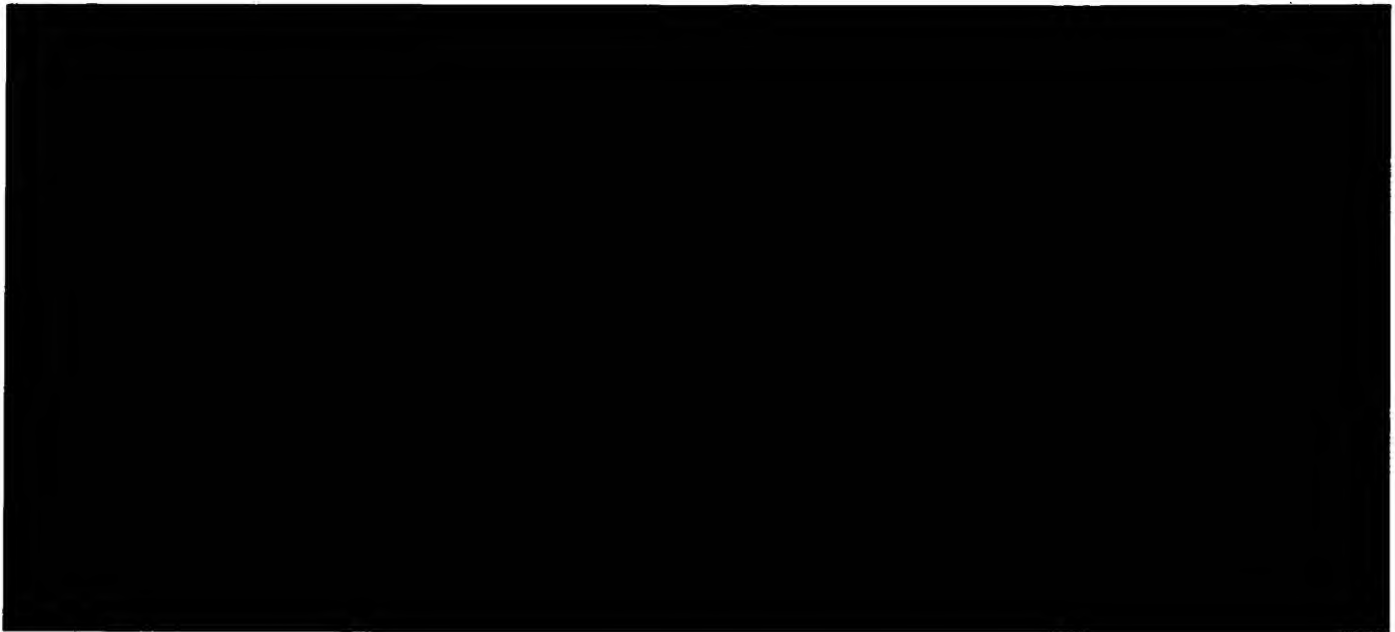
Invented by

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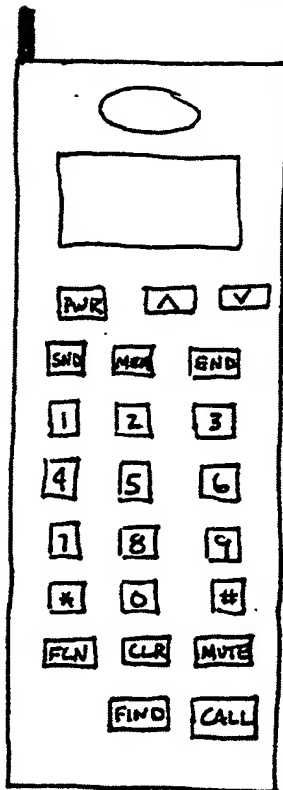
Daniel C. Burnett

Daniel W. Manning

To Page 2.



How it is used - This is intended as an example of how it could be



Example cellular phone

Cellular calls

for normal cellular calls, ~~the~~ nothing changes from its normal operation. The user keys in 7 digits and hits SND. To receive calls, user simply hits SND or one the #'s (1-9) - like other cell phones - or any other

Phone-to-Phone calls

To call another handset using the new, (invention) feature the user dials the other handsets number (it could be digits, 6 digits, any number of digits) and hits CALL. Alternatively, the user could add a * or # to the beginning or the end of the number and hit SND. (* or # would indicate use of the invention). To receive a call, nothing would change over the regular cellular described above.

To find out which of the user's friends are within range the user simply hits FIND. The phone returns a list of phone #'s and names (of those numbers). The user can scroll through the list, using the ▲ and ▼ keys.

To Page 1

Witnessed & Understood by me,

Daniel C. Burnett
Phy 2B

Date

[Redacted]

Invented by

Daniel W. Manning

Recorded by

Date

[Redacted]

Project No. _____

Book No. _____ TITLE _____

From Page No. 43

Once the user finds a name and number he/she wants to call, the user ^{can} simply hit CALL with that number still displayed on the screen and a call will be placed to that number.

Other Uses

The invention does not only apply to teenagers who have the KIWI service. Nothing about the invention requires the KIWI service. Any cellular, digital, or other service could also be on the phone. So, the user may have the invention and full cellular service. In addition, no cellular service could be on the phone. The phone would simply be used to place calls ~~at~~ to other phones only.

Also, there may be business applications for a phone with these capabilities. Further, people other than teenagers may find this phone useful.

To Page No

Witnessed & Understood by me,

Daniel C. Burnett

Date

Invented by

Daniel W. Manning

Date

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TITLE _____

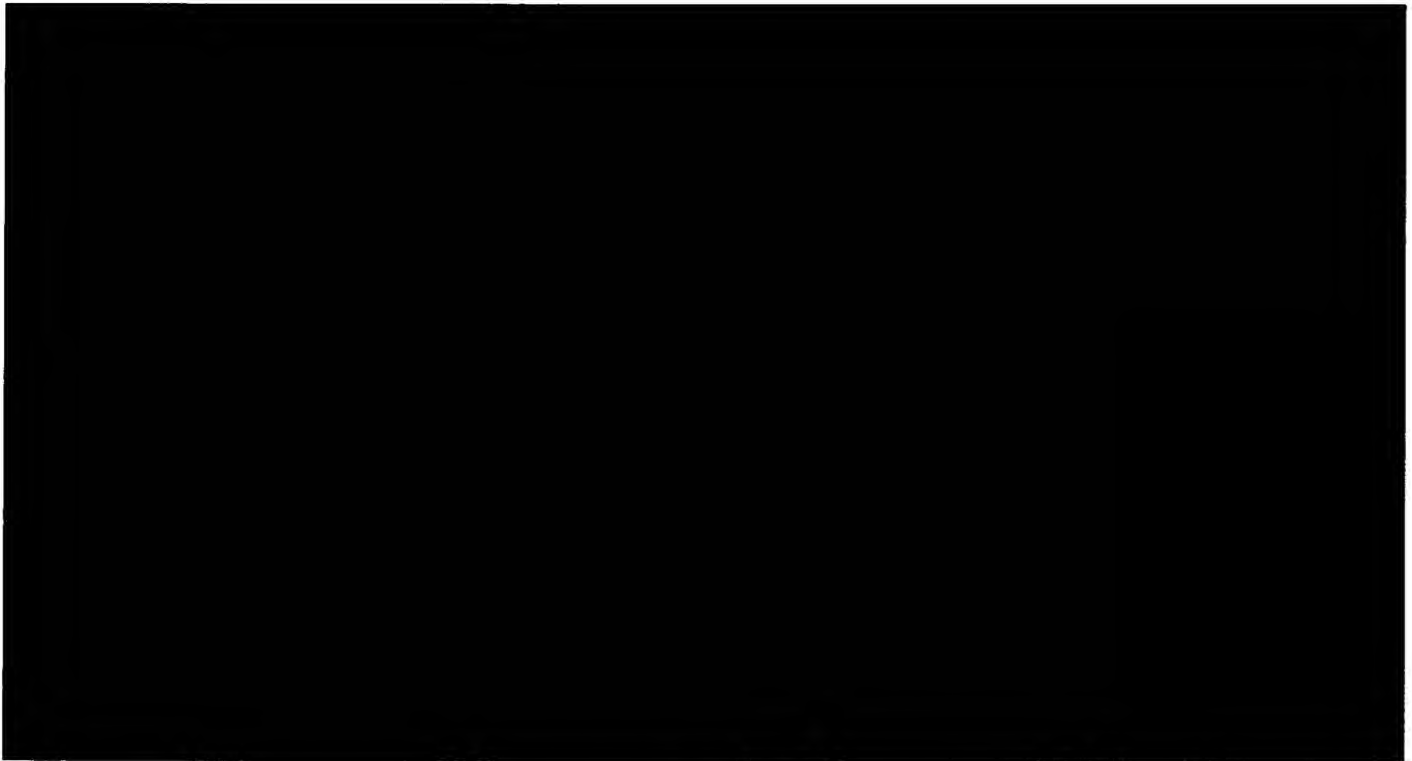
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From Page No. 12

NOTE: Phone can/could be capable of having names and numbers in the address book. - called phone book from here on. Also, the name and number ~~could be sent~~ of the owner could be sent when one phone calls another phone, so that the name and/or number is displayed on the receiving phone. Thus, the person receiving the phone call can see the name and/or the number of the person who is calling.

In fact, to reduce the memory requirements of the phones, names could be only stored on the owner's phone.

When using the FIND feature, the name and/or number could be displayed of which phone's are within range. This information can be transmitted by the owner's phone to the phone that initiated the FIND so that the latter phone does not have to store names.



To Page No. _____

Witnessed & Understood by me,

Daniel C. Burnett

Date _____

Invented by

Daniel A. Manning

Date _____

Mobile Wireless Network

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NOTES on Blocking: (first discussed on a call with Chuck Green)

Blocking is the feature which enables the user to select identity another user as someone who cannot call them and if that person uses the ID feature, it will never let that person know that the user is around.

Example: If Joe does not want Cathy to call him, he can enter Cathy's mobile wireless ^{network} number (not the phone number of her handset) to his blocking list. Cathy will not be able to call him even if he is within range. Also, if Cathy hits her FIND button and Joe is within range, Joe's number will not be displayed on Cathy's phone as someone who is around, so ^{she} ~~she~~ will not know he is there.

NOTE: an alternate embodiment could be that the blocking list only blocks the FIND feature, but not direct calls, or only blocks direct calls and not the FIND feature.

Study Results: Other results of the study described on pages 7-12 of this lab notebook were that the teenagers believed that having a blocking function was a very good idea. They felt it was important to be able to identify people they did not want to get in touch with them to keep people from annoying them or hounding them.

NOTE: It may also be important from a privacy standpoint to at least have the FIND feature blocked.

Michael C. Burnett

Daniel W. Manning

Mobile Wireless Network

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1) dynamically selectable point-to-point

Each handset is given a unique ID number, enabling personal conversations between two handsets. This differs from CBs and walkie-talkies because their signals are broadcast on a predefined channel, their handsets do not have unique IDs, so they are not point-to-point. Also, the handsets ~~can~~ of the invention can select other handsets by dialing in their unique ID number, thereby enabling personal calls with many other handsets - dynamically selectable

2) No prior arrangements for channel selection (automatic dynamic logical channel allocation)

The users ^{of the invention} do not have to select a channel ~~area~~ ahead of time, like CBs, in order to talk to each other. All the user of the invention must do is select the unique ID of the handset handset he/she wishes to call, and the two handsets will auto. dynamically select the channel. Users specify who to call, not how or where.

3) wireless

4) Unit capable of handling all communication within range

The units (handsets in preferred embodiment) ~~are~~ contact each other and negotiate channel selection with each other. No base station or other controllers are required. However, this does not rule out repeaters which are capable of extending the range of the handset.

Page No. _____

Mobile Wireless Network - discussion with Chuck Green

Adding person to speed dial / Poll list

When two people want to trade phone numbers, they could get close together and hit a button (or press navigate a menu) close together in time (e.g. within 5 seconds of each other). The two phones will communicate with each other and trade names and phone numbers. Names and phone numbers will automatically be entered in each phone of the other phone and stored

Conceivably, people could be instructed to touch the antennae of the phones and then invoke this function

Also, it is possible that if many people where in the same area and all pressed invoked this function close together in time, all numbers would be exchanged with all people

One possible way this could work would be then using a special control channel. When the function was invoked, the phone could start sending its name and phone number on the control channel, while listening for the name and phone number of another phone. It could continue this for 5 seconds, for example, ^{so} and if the function was invoked on the other phone within that 5 seconds, the two phones would ^{store} the name and number of the other phone into their speed dial / poll list. If not, no names would be stored. Also, when in this mode, the phones could transmit at a very low power, thus requiring the two phones to be close together and reducing the possibility of accidentally storing another person's name and phone number who happens to be also trying to exchange numbers with someone else. If many people were close together and all invoked the function at the same time, everyone would store everyone else's name and number. Further, the power transmitted could be so low as to require the antennae to be touching

To Page No. _____

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Invented by _____

Date _____

2 Buntz

David W. Manning